

Abstract of the Disclosure

Multi-path effects are common in mobile communications. When coupled with spread-spectrum signals utilizing spreading code sequences, detection of more than one multi-path signal becomes a necessity in order to output a clean signal with little loss. In accord with the invention, a spread-spectrum sliding matched-filter searcher system comprises a partial matched-filter that
5 receives the input spread-spectrum signal. The searcher matches samples of the input signal with a tap length m of the reference code and produces a first correlation value. The first correlation value is compared to a first threshold. When it equals or exceeds the first threshold, the first correlation value is integrated to produce a second correlation value. This second value is compared with a second threshold, which if met signifies the detection of the multi-path signal.
10 The process is repeated until all significant multi-path signals are detected. This design of the present invention is flexible in nature because the searcher can be programmed to act like a matched-filter, a correlator, or a combination of both while significantly improving the search time and reducing the amount of hardware and complexity characteristic of a matched-filter.